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10 30
atgacgactgaaccggtatttttcaagcctgttttcaaagaaagaatt
M T T E P L F F K P V F K E R I

50 70 90
tggggcgggaccgcttttagctgattttggctataaccattccgtcacaa
W G G T A L A D F G Y T I P S Q

110 130
cgaacaggggagtgctgggcttttgccgcgcacataaaatgggtcaaagc
R T G E C W A F A A H Q N G Q S

150 170 190
gttggttcaaaacggaatgtataaggggttcacgctcagcgaattatgg
V V Q N G M Y K G F T L S E L W

210 230
gaacatcacagacattttattcggacagcttgaaggggaccgtttccct
E H H R H L F G Q L E G D R F P

250 270 2
ctgcttacaaaaatattagatgctgaccaggacttatctgttcagggtg
L L T K I L D A D Q D L S V Q V

90 310 330
catccgaatgatgaatatgccaacatacatgaaaacgggtgagcttggg
H P N D E Y A N I H E N G E L G

350 370
aaaacagaatgctgggtacattattgattgccaaaaagatgccgagatt
K T E C W Y I I D C Q K D A E I

390 410 430
atztatggccacaatgcaacaacaaaggaagaactaactaccatgata
I Y G H N A T T K E E L T T M I

450 470
gagcgtggagaatgggatgagctcttgccgccgtgtaaagggtaaagccg
E R G E W D E L L R R V K V K P

490 510 5
ggggattttttctatgtgccaagcgggtactgttcattgcgattggaaaa
G D F F Y V P S G T V H A I G K

30 550 570
ggaattcttgctttggagacgcagcagaactcagacacaacctacaga
G I L A L E T Q Q N S D T T Y R

FIG. 1A

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590 610
ttatatgattatgaccgaaaagatgcagaaggcaagctgcgcgagctt
L Y D Y D R K D A E G K L R E L

630 650 670
catctgaaaaagagcattgaagtgatagagggtcccgtctattccagaa
H L K K S I E V I E V P S I P E

690 710
cggcatacagttcaccatgaacaaattgaggatttgcttacaacgaca
R H T V H H E Q I E D L L T T T

730 750 7
ttgattgaatgcgcttacttttcggtgggggaaatggaacttatcagga
L I E C A Y F S V G K W N L S G

70 790 810
tcagcaagcttaaagcagcaaaaaccattccttcttatcagtgatgatt
S A S L K Q Q K P F L L I S V I

830 850
gaaggggaggggccgtatgatctctggtgagtatgtctatcctttcaaa
E G E G R M I S G E Y V Y P F K

870 890 910
aaaggagatcatatgttgctgccttacgggtcttggagaatttaaactc
K G D H M L L P Y G L G E F K L

930
gaaggatatgcagaatgtatcgtctcccatctg
E G Y A E C I V S H L

FIG. 1B

+

59	10	20	30	40	50
yjde.pep	MTTEPLFFKPVKE	RIWGGTALAD-FGY	TIP	TSQRTGECWAF	AAHQNGQSVVQNGMYK
FT		:	:	:	:
1	10	20	30	40	50
PMI	MTQSPIFLT	VPFKEKI	WGGTALRDRFG	YSIPSE	STGECWAI
KT		:	:	:	:
60	10	20	30	40	50
19	60	70	80	90	100
yjde.pep	LSSELWEHHRHL	FGQLEGDRFP	LLTKILDADQD	LSVQVHPN	DEYANI
YI		:	:	:	:
PMI	LIELWEEHRE	VFGGVEGDRFP	LLTKLLDVKED	TSIKVHPDD	YYAGENE
YI		:	:	:	:
20	70	80	90	100	110
79	120	130	140	150	160
yjde.pep	IDCQKDAEII	YGHNAT	TKKEEL	TTMIERGE	WDELLRRVK
IL		:	:	:	:
1	130	140	150	160	170
PMI	IDCKENAEII	YGH	TARSKTEL	VTMINS	GDWEGLLRRIK
AL		:	:	:	:
80	130	140	150	160	170

FIG. 3A

FIG. 3B

```
yjde.pep      GEFKLEGYAEICIVSHL
               :! ::!  |||:
PMI            PDFTIKGTCTLIIVSHI
               310
```

FIG. 4A

FIG. 4B

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10 30
atgacgcatccattatTTTTtagagcctgtctTTTaaagaaagactatgg
M T H P L F L E P V F K E R L W

50 70 90
ggagggacgaagcttcgtgacgctTTTggctacgcaataccctcacaa
G G T K L R D A F G Y A I P S Q

110 130
aaaacaggtgagtgtggtggcgcttctgcacatgcccatggctcgctcg
K T G E C W A V S A H A H G S S

150 170 190
tctgtaaaaaatggcccgctggcaggaaagacacttgatcaagtatgg
S V K N G P L A G K T L D Q V W

210 230
aaagatcatccagagatatcgggtttccggatggtaagggtgtttccg
K D H P E I F G F P D G K V F P

250 270 2
ctgctggtaaagctgctggacgccaatatggatctctccgtgcaagtc
L L V K L L D A N M D L S V Q V

90 310 330
catcctgatgatgattatgcaaaactgcacgaaaatggcgaccttggt
H P D D D Y A K L H E N G D L G

350 370
aaaacggagtgtggtatatcattgattgcaaagatgacgccgaacta
K T E C W Y I I D C K D D A E L

390 410 430
atTTTgggacatcatgcaagcacaaaggaagagttcaaacaacgaata
I L G H H A S T K E E F K Q R I

450 470
gaaagcgggtgattggaacgggctgctgaggcgaatcaaaatcaagcca
E S G D W N G L L R R I K I K P

490 510 5
ggagatttctTTTtatgtgccaaagcggtacactccatgctTTTatgtaag
G D F F Y V P S G T L H A L C K

30 550 570
ggaacccttgtccttgaaatccagcaaaactctgatacaacatatcgc
G T L V L E I Q Q N S D T T Y R

FIG._5A

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590 610
gtatacgattatgaccgctgtaatgaccagggccaaaaagaactctt
V Y D Y D R C N D Q G Q K R T L

630 650 670
catatagaaaaagccatggaagtcataacgataccgcatatcgataaa
H I E K A M E V I T I P H I D K

690 710
gtgcatacacccggaagtaaaagaagttggtaacgctgagatcattggt
V H T P E V K E V G N A E I I V

730 750 7
tatgtgcaatcagattatctctcagtggtacaaatggaagattagcggc
Y V Q S D Y F S V Y K W K I S G

70 790 810
cgagctgcttttccctcatatcaaacctatttgctggggagtggtctg
R A A F P S Y Q T Y L L G S V L

830 850
agcggatcaggacgaatcataaataatgggtattcagtatgaatgcaat
S G S G R I I N N G I Q Y E C N

870 890 910
gcaggctcacactttattctgcctgcgcattttggagaatttacaata
A G S H F I L P A H F G E F T I

930
gaaggaacatgtgaattcatgatctcatcct
E G T C E F M I S H P

FIG. 5B

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10 30
atgacgcaatcacgatttttctaacgcctgtgtttaagaaaaaatc
M T Q S P I F L T P V F K E K I

50 70 90
tggggcggaaccgctttacgagatagatttggatacagtattccttca
W G G T A L R D R F G Y S I P S

110 130
gaatcaacgggggaatgctggggccatttccgctcatccaaaaggaccg
E S T G E C W A I S A H P K G P

150 170 190
agcactgttgcaaattggcccgtataaaggaaagacattgatcgagctt
S T V A N G P Y K G K T L I E L

210 230
tgggaagagcacccgtgaagtattcggcgggcgtagagggggatcggttt
W E E H R E V F G G V E G D R F

250 270 2
ccgcttctgacaaagctgctggatgtgaaggaagatacgtcaattaaa
P L L T K L L D V K E D T S I K

90 310 330
gttcaccctgatgattactatgccggagaaaacgaagaggggagaactc
V H P D D Y Y A G E N E E G E L

350 370
ggcaagacggaatgctggtacattatcgactgtaaggaaaacgcagaa
G K T E C W Y I I D C K E N A E

390 410 430
atcatttacgggcatacggcccgtcaaaaaaccgaacttgtcacaatg
I I Y G H T A R S K T E L V T M

450 470
atcaacagcgggtgactgggagggcctgctgccaagaatcaaaattaaa
I N S G D W E G L L R R I K I K

490 510 5
ccgggtgatttctattatgtgccgagcgggaacgctgcacgcattgtgc
P G D F Y Y V P S G T L H A L C

30 550 570
aagggggcccttgtttttagagactcagcaaaattcagatgccacatac
K G A L V L E T Q Q N S D A T Y

FIG. 6A

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590 610
cgggtgtacgattatgaccgtcttgatagcaacggaagtccgagagag
R V Y D Y D R L D S N G S P R E

630 650 670
cttcatttttgccaaagcgggtcaatgccgccacgggttccccatgtggac
L H F A K A V N A A T V P H V D

690 710
gggtatatagatgaatcgacagaatcaagaaaaggaataaccattaaa
G Y I D E S T E S R K G I T I K

730 750 7
acatttgtccaagggggaatatatttttcggtttataaatgggacatcaat
T F V Q G E Y F S V Y K W D I N

70 790 810
ggcgaagctgaaatgggtcaggatgaatcctttctgatttgcagcgtg
G E A E M A Q D E S F L I C S V

830 850
atagaaggaagcggtttgctcaagtatgaggacaaaacatgtccgctc
I E G S G L L K Y E D K T C P L

870 890 910
aaaaaagggtgatcacttttattttgccgggtcaaatagcccgattttacg
K K G D H F I L P A Q M P D F T

930
ataaaaaggaacttgtacccttatcgtgtctcatatt
I K G T C T L I V S H I

FIG. 6B